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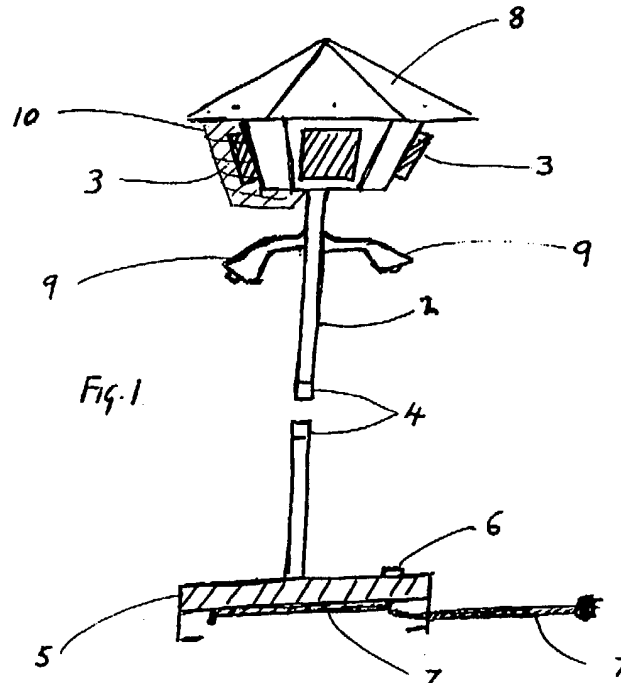
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(56) Documents Cited
EP 0976979 A1 EP 0577196 A1
FR 002682419 A1 JP 610143636 A
US 6164273 A US 4174532 A

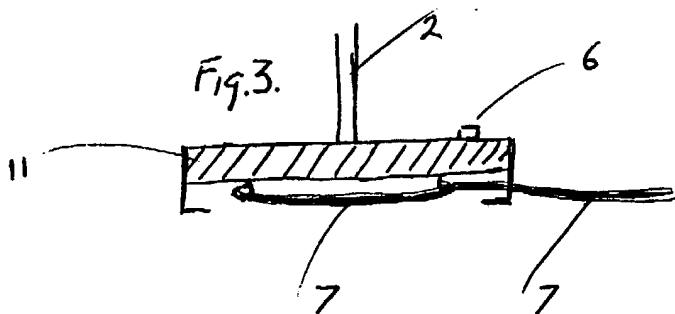
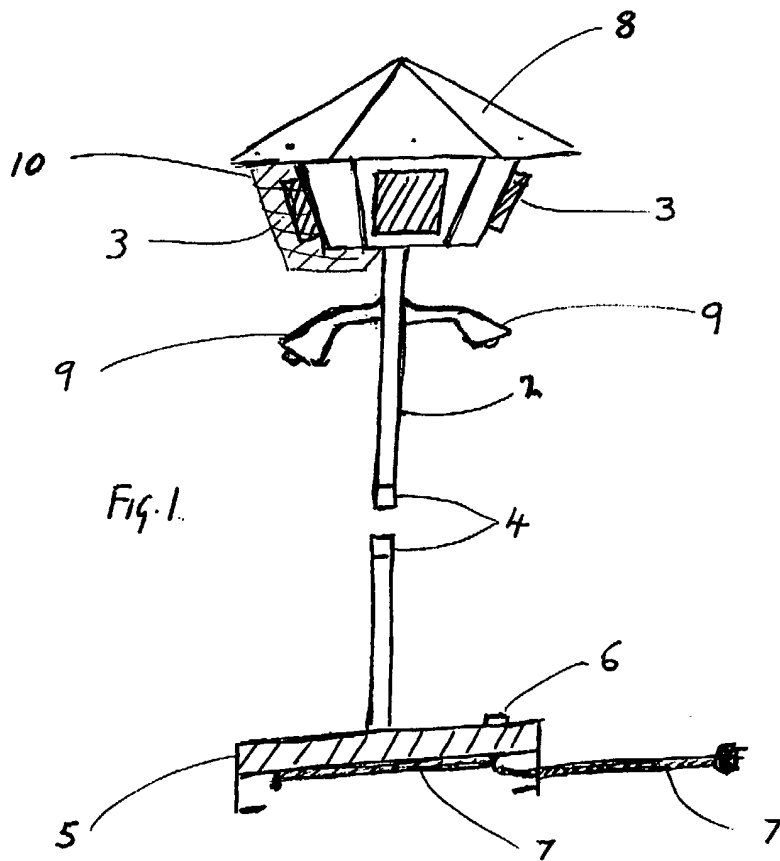
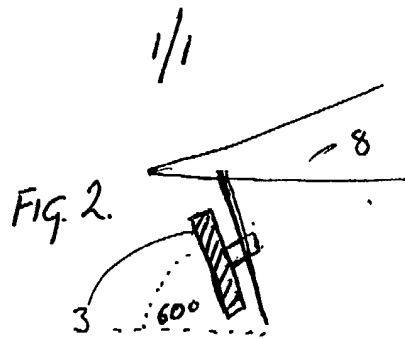
(58) Field of Search
UK CL (Edition T) **F4U U10**
INT CL⁷ **F23D 14/28 14/70 14/76, F24C 1/12 5/00 15/22**
Other: **ONLINE: WPI, EPODOC, JAPIO**

(54) Abstract Title
An electric patio light and heater apparatus

(57) An electric patio heater apparatus comprising a fabricated body so that it can be used in place of a patio table parasol or so that it can free stand. The apparatus also includes a heater preferably infra red heating panels 3, a light fitting 9 that is disposed beneath the heating source but above the patio table top surface, a base 5 which can be weighted by filling it with sand or any other suitable material, a top cover 8 disposed above the heating panels and an electric extension cable 7 which can be concealed in the base. The fabricated body also comprising a vertical pole 2 which is preferably constructed in two sections for ease of storage and assembly. Preferably, there is a chromium plated grill 10 that guards the heating panels and a male/female electric connector 4 which allows the pole to separate in two. The electric patio heater is constructed so that it can operate on a domestic electric circuit supply that does not exceed 3 KW output.



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PATIO HEATER

This invention relates to a patio heater.

Patio heaters are well known products, principally using gas as their source of energy, and are well known for being large, bulky and inefficient. They use a lot of energy because the appliances stand to the side of patio sets and most of the heat output is dissipated into the air, rather than where it is intended, which is the people in the vicinity of the heat source. An electric patio heater using Infra Red panels 1 and crucially designed to fit into the middle of your existing patio set overcome this problem.

a)Patio sets refers to already marketed wood, plastic or metal sets of tables and chairs for outdoor use, that usually have a central hole in the table top to which a parasol is inserted.

The apparatus is designed so it can be plugged into a standard household socket, without the need for a special ring main or fuse board. The correct rated extension cable 7 is supplied with the appliance and is crucially hidden within the weighted base.

The apparatus will be Flat Packed for convenient storage and handling and easily assembled by the user.

b)Flat Packed refers to self assembly products broken down to their main components and packed into a box for convenient storage and carrying.

The base 5 is weighted by adding sand or a suitable material 11 via a capped hole 6 in the base fig3.

The apparatus will crucially dismantle along the vertical pole 2, splitting into two so as the bottom half can be placed under a patio table and the top half including the heater panels 3 added to complete installation, thus replacing the parasol. A male/female electrical connector 4 fitted within the vertical pole allows the apparatus to be split as previously mentioned.

The top cover of the apparatus 8 and the crucial design and angle of the heater element housings form part of the reflective surface necessary to direct the heat output to its optimum efficiency within the desired area around the patio set.fig.2. The top cover also provides protection for the electrical connections housed within.

Light fittings 9 are situated below the heat output casting light over an existing patio table. Fig.1. While a Chromium plated grill 10 gives protection against touching the heater elements.

CLAIMS

- 1 An electric Patio Heater comprising a fabricated body which can be used as a free standing outside heat source, or integrated into an existing Patio set by removing the Parasol and utilising the existing hole in the table top.
- 2 An electric Patio Heater as claimed in claim 1 by means of Infra Red heater panels.
- 3 An electric Patio Heater as claimed in claim 1 and claim 2 whereby the apparatus splits into two halves to allow the base to be situated underneath existing garden furniture, and the top replaced from above the table to complete the appliances assembly.
- 4 An electric Patio Heater as claimed in claims 2 and 3 that does not exceed 3.KW. in output thus enabling it to be plugged directly into any household electric wall socket, without the use of a special ring main or fuse board.
- 5 An electric Patio Heater as claimed in preceding claims that has light fittings below the heat source but above table top height, allowing light and heat to be used simultaneously or independently.
- 6 An electric Patio Heater as claimed in preceding claims that comes with its own extension lead concealed in the base of the apparatus, which is of the correct rating for 3KW output.
- 7 An electric Patio Heater substantially as described herein with reference to figures 1, 2 and 3. Of the accompanying drawings.



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Application No: GB 0125366.5
Claims searched: 1-6

3 Examiner: Tyrone Moore
Date of search: 14 May 2002

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK Cl (Ed.T): F4U (U10)
Int Cl (Ed.7): F23D (14/28, 14/70, 14/76); F24C (1/12, 15/22, 5/00)
Other: ONLINE: WPI, EPODOC, JAPIO.

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X, Y	EP 0976979 A1 (O'CONNELL) See figures 1-10, especially figures 8, 12, items 30, and the description in column 5, paragraph 24 and column 6, paragraph 27.	X: 1, 3, 4, 6 Y: 2, 5
X, Y	US 6164273 (WATERS) See figures 1-13, especially figures 11, 12, items 150, 130, and the description in column 13 at line 66 to column 15 at line 24.	X: 1, 3, 4, 6 Y: 2, 5
Y	US 4174532 (KELLEY) see figures 1-5. This document describes a parasol with a lighting fixture. Refer to the description in column 2 at line 62 to column 3 at line 18.	5
Y	FR 2682419 A1 (PERRIER) see figures 1-6, items 4,16 and the WPI, EPODOC abstracts, especially "The parasol includes a lamp flex (4) which terminates in a socket (17) on a shock-absorbent base (18) on the upper shaft end. A ventilated (20) translucent tube (19), slipped over the shaft (2), protects the lamp (16) and supports the shaft extension (21)."	5

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.



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Application No: GB 0125366.5
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Examiner: Tyrone Moore
Date of search: 14 May 2002

Category	Identity of document and relevant passage	Relevant to claims
Y	JP 61143636 A (MATSUSHITA) see figures 1-6 and the JAPIO abstract, especially figures 5 & 6 which illustrate the use of an electric heater that is adaptable in its location of use.	2
Y	EP 0577196 A1 (PHILIPS) See figure 1 and the description which describes an IR electric heater lamp.	2

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.